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ABSTRACT

Communication researchers should respond to the interface of theoretical views and empirical data; that is, they should "take stock" of their theoretical assumptions and ensure that the research they undertake adequately reflects those theoretical assumptions. This essay presents the rationale for stock taking in the communication discipline and applies that device to "open-systems" communication theory and research. (A system is said to be open when its boundaries allow the system to interact freely with its environment.) A review of the literature in that area of communication study shows that behavioristic bias and lack of unity in research coding schema exist. The paper concludes that the open-systems approach to communication theory has great potential, but this approach will progress only if researchers take stock--constantly examining the relations between theoretical assumptions and empirical data. (RL)

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STOCKTAKING OPEN-SYSTEMS RESEARCH AND THEORY:

A CRITIQUE AND PROPOSALS FOR ACTION

Abstract

It is essential that all communication theoretical perspectives be recurrently dissected and analyzed on their own merits. To 'take-stock' of a particular perspective is to seek out and identify those underlying assumptions which guide inquiry into communicative events. If researchers are sensitized to their assumptive frameworks, there is a greater likelihood that inquiry will be focused on more significant areas of concern. This essay attempts an initial stocktaking of the open-systems approach to communication research and theory. The relative importance of this perspective is stressed in light of its metatheoretical framework, theoretical applications, empirical means of assessment, and potential for affecting communication inquiries. A critique is offered as are proposals for action intended to help minimize weaknesses while building on strengths inherent in open-systems explication of communication phenomenon.

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STOCKTAKING OPEN-SYSTEMS RESEARCH AND THEORY: A CRITIQUE AND PROPOSALS FOR ACTION

It is essential that all theoretical perspectives accounting for human communicative behavior be recurrently dissected and analyzed on their own merits. Risking oversimplification, to 'take-stock' of any particular perspective initially requires the seeking out and identification of those underlying assumptions which serve to guide inquiry into communicative events.[1] The next step is to assess the degree to which basic assumptions are aligned with stated and desired goals, which of course necessitates the consideration of research techniques and their operationalizations. Assuming these evasive tasks have been accomplished satisfactorily, the researchers should then possess adequate information to critically analyze and articulate both strengths and weaknesses of a given explanatory framework. Finally, in the form of proposals for action, this type of knowledge would help to insure that a given inquiring process is more valid due to the scope of its programmatic concerns.

Ideally, the above 'sequence' seems quite suitable for sound theoretical development. Realistically speaking, however, it brings to mind the old (but never outdated) saying "It sounds good in theory, but..." In fact, although diverse communication journals and texts are fraught with appeals for solid theory building, the discipline per se is floundering for an identity of its own.[2] It seems that critical theoretical assessments are often called for but too infrequently carried out.

The explicit purpose of this essay is to attempt a stocktaking effort of what might be called the open-systems approach to communication research and theory.

It's relative importance is evident in light of its metatheoretical framework, theoretical applications, and empirical means of assessment; in short, its potential for meaningfully affecting future communication inquiry.

To begin: 1) a brief and general theoretic rationale will be given addressing the need for such stocktaking efforts within the communication discipline; followed by 2) an overview of systems theory as a metatheoretical framework, its usefulness for communication research, and some common misconceptions associated with these perspectives; 3) a literature review intended to familiarize the reader with selected research applications guided by open-system concerns; and 4) a critique of open-systems research and theory with proposals of action intended to help minimize possible weaknesses and build on existing strengths inherent in constructing a systems theory of human communication. The first and last sections of this essay (I & IV) are decidedly more evaluative and suggestive, while sections II and III serve more descriptive and clarifying functions.

I. Theoretic Rationale

A multitude of explanations have been posited regarding why theory development is sluggish within the communication discipline, but most pertinent to the present discussion is the atheoretical status of communication research. Fisher[3] has recently addressed this unfortunate state of affairs by suggesting that the majority of 'schools of thought' representing our field do not consider theory development the highest priority. Instead, "The methods and the techniques of empiricism, the nitty-gritty of doing research, become the principal if not the sole means for evaluating our research efforts. . .The result is an accumulation of mountains of empirical "information" but little cumulative theoretical "knowledge."[4] In short, when empirical orientations serve to overshadow rather than complement our theoretical

concerns--i.e. when reliance upon past empirical findings is the sole criterion for determining future investigative needs for communication research--there will be a proportionate lack of directed and progressive inquiry into the complexities of communication processes.

Granted, theory construction is a problematic endeavor in that it does not lend itself to solutions. Rather, of utmost importance are those coping strategies utilized when theory is conceived as a developing phenomenon. For years scholars have expressed the sentiment that the ongoingness of research is as much a process as are the phenomena being investigated.[5] As such, any knowledge claims which we 'discover' today can only reflect the need to simultaneously revise our past interpretations while proposing future modes of inquiry into variations of communicative events. The issue here, obviously, is not to construe empirical results in isolation of the theory it reflects, nor to rely solely upon propositions which possess no empirical reference. The alternative which is most alluring is to allow these two pools of information to illuminate one another. Stated differently, researchers should respond to the interface of theoretic views and empirical data. The intricate steps involved in actually doing communication research and theory construction, then, necessitates not a problem-solving orientation as much as an ongoing focus upon competency in researcher decision-making. And this process of making choices--of deciphering out unyielding avenues open for future investigation-- requires that researchers become sensitized to their assumptive frameworks. By stocktaking the conceptual and methodological 'tools' being utilized, we can better focus our attention on significant areas of concern in our longitudinal pursuit for communication knowledge.

II. Systems Metatheory: Characteristic Appropriateness and Common Misconceptions

Numerous in-depth attempts have been made to incorporate systems thinking into the study of human communication.[6] Therefore, an amalgam of specific principles of behavioral systems will not be restated here. Rather, the present concerns are with why the metatheoretical systems framework is appropriate for studying communication theory.

It seems that the underlying and suitable theme reflecting a systems approach to communication merely stresses the obvious: that behavioral systems are often extremely complex, and that such complexity should be confronted as best possible from the researcher's standpoint. Definitions of a 'system' are profuse, but the most commonly utilized is Rappaport's view that a whole functions according to the interdependence of its parts, over time, whereby boundary-maintenance is both a need and an outcome of component interaction.[7] This conception of non-summativity, no longer novel within the communication field, suggests that significant interpretations of phenomena will arise not from analyses of isolated parts, but from a focus upon systemic interaction. It is the onging association of components which gives each system its unique identity as well as its isomorphic qualities.

When applied to the study of interpersonal relationships, a quick perusal of even the key terms prevalent in current research reveals the appropriateness of stressing communication interdependencies, i.e. of viewing communication relationships as 'systems' in their own right. Consider, for example, the terms <u>mutuality</u> of influence in determining relationship definitions,[8] <u>coordinating</u> and <u>managing</u> meaning,[9] and <u>negotiating</u> interpersonal goals and reward/cost ratios.[10] And even more basic is the prefix 'inter', implying a <u>betweeness</u> quality as persons

simultaneously engage in communicative acts. Of course, each of these terms possesses meaning according to the framework it is interpreted within. The notion of 'mutuality of influence', for example, could be operationalized entirely differently depending upon the epistemological choices governing the research process. In any case, the prevailing and general conceptual orientation for current communication theory is transactional in scope, and open-system concerns fit well within this overall framework.

A system may also be viewed as being hierarchically ordered, and functioning concomitantly at each level of complexity.[11] (As will be discussed in a subsequent section, meaning assignations held by communication participants and behavioral manifestations are intertwined in any social interaction, yet may correctly be defined as different 'levels' of social phenomenon.) Each 'level' in this sense, as well as the system as a whole, adjusts to perturbations internal and/or external to the system itself. For a system to strive for (and in some cases, maintain) stable states over time, then, demands that it be adaptive in its self-organization: there is a direct relationship between an increase in adaptive potential and increased functional capacity, both of which are afforded by the degree of differentiation of the organization's structure.[12] Thus, a system may be said to be 'open' to the extent to which it has "...permeable boundaries allowing the system to interact freely with its environment."[13] In addition, as employed in the context of this essay, the concept of 'openness' signifies: 1) a recognition of the ability of the participants in any given situation to actively participate and affect their communication environment; and 2) the concern of the open-system researcher to impose minimal external constraints on their interaction throughout the analysis. (This is discussed more fully in a later section by contrasting inductive and deductive research modes.)

Also of significance, as Weick[14] suggests, is that a systems organization at any point in time has meaning only in relation to the overall process of organizing . Consequently, this perspective demands that communication systems researchers constantly strive to conceptualize as a dynamic system functions. Trite as this may seem upon initial inspection, especially since this is an end goal which can never be fully attained, the implications of such intentions should not be taken lightly. To say that these ideas can be empirically assessed by research techniques, or that conceptualizations will be totally 'accurate' are lasting and unanswerable questions in their own right. Instead, the fruitfulness of a systems approach can best be foreseen in light of the focused attention upon explanations of communicative events as interdependant, ongoing states of interaction.

It is this type of argument which suggests that to visualize communication as process requires theoretic applications which are grounded in process notions. Consider, for example, the systems notion of equifinality.[15] This characteristic suggests that one set of initial conditions can lead to the emergence of varying final states, and conversely, divergent initial conditions may result in a single outcome. Relationally speaking, it is only stressing the obvious to state that persons may have very similar backgrounds yet be interpersonally incompatible, while some with nearly opposite residual experiences may develop strong bonds of social cohesion. Or, in consideration of a common research practice, a set of small decision-making groups and/or dyads may be confronted with identical tasks to perform, yet while accomplishing this task appear to be working on contrary assignments. This view is exemplary of systems perspectives as a science of exploring organizing (process) and organization (structure). As state by Rubin, "Since communication is the means by which organizing and organization occur, it

occupies a central role in systems thinking."[16]

Before reviewing some specific applications of open-system concerns to communication research, two metatheoretical misconceptions deserve attention.

Misconception #1: General Systems and systems approaches are not necessarily synonymous.

General Systems Theory (GST), initiated by Bertalanffy,[17] is oriented toward identifying similarities--be they empirical methodologies, research findings across seemingly incomparable phenomena, or general theoretic conceptualizations--across disciplines. The end goal is to provide means of integrating varied scientific inquiries into more unified knowledge-seeking activities, i.e. to search "...for analogy-based principles or models to explain behavior of 'classes' of entities or phenomena."[18] Put simply, interdisciplinary parsimony is the key.

Systems theories, on the other hand, are bound by the particular discipline within which they are utilized. By definition, they are only applications of GST, and should not be confused with GST itself. Numerous fields of inquiry within the physical and behavioral sciences may use system-like analogies in their research, yet content or focus surely differ.

However, both GST and discipline-bound approaches seek to discover isomorphic principles among sets of phenomenon which may or may not appear different upon initial inspection. The overriding goal is not only to stress the search for similarities, but also provide more in-depth interpretations involving the degrees and frequencies by which these similarities become manifest in varying conditions. The main differences, again, are the parameters of inquiry: GST is interdisciplinary in scope; systems applications are employed within specific disciplines of interest. Yet both are metatheoretical since they provide encompassing sets of principles which are void of particular content. The structural framework for

inquiry, not the content of application, is inclusive within a metatheory. For example, a basic systems assumption is that systems evolve according to inherent functional and structural characteristics.[19] But it is the researcher's role to explicate what is evolving, and how the process is occurring, whether it be marital and family relations or the biological functionings of rhesus monkeys in controlled laboratory conditions. This leads to the next misconception.

Misconception #2: Systems applications to human communication, because of their abstract metatheoretical status, are of minimal value to investigating everyday communicative events.

As mentioned, systems approaches are by nature metatheoretical. Only when a researcher employs systems criterion for a particular reason does the systems metatheory become transformed into a theoretical account of phenomenon. As with all metatheories, its 'value' is determined by the application procedures utilized by the researchers(s) for the purposes at hand; it can be used or abused, like anything else. As was stressed in an earlier section, the utilization of a systems metatheory is in direct relation to the researcher's competency in making choices among alternative explanatory modes. A useful metatheory should be precise enough to allow for analogies to be drawn, yet necessarily abstract so as to allow for flexible adaptation. This becomes clear when considering that different systems applications are possible within a single metatheoretical framework, such as different conceptualizations of communication systems within the discipline. Note, for example, the differences in systems perspectives between Cushman and Craig's[20] article "Communication Systems; Interpersonal Implications", and the work by Fisher.[21] Cushman and Craig stress a rules-based approach which is cognitively oriented, while Fisher utilizes a pragmatic view whereby overt behaviors have been employed for data analysis.

Thus, it becomes the responsibility of the researcher to view abstractness as problematic when: 1) it is not for some reason(s) comprehensible on a metatheoretical level for theoretical utilization; 2) it is difficult to theoretically operationalize a metatheoretical perspective within one's conceptual framework. Clearly, these situations may tend to promote disperate and often contradictory applications within the metatheory itself, a condition which also provides a need for taking stock and becoming sensitized to the underlying assumptions guiding one's research pursuits.

III. Literature Review: Open-Systems Applications to Communication Research

Open systems communication research has been for the most part inductively-based.[22] The degree to which antecedent conditions are used to predict and determine interaction consequences, is in direct proportion to the degree to which research can no longer be considered open-systemed.[23] The researcher's role within an open-systems framework is such that:

> [One's] approach to a problem is dictated primarily by the emergent properties of the phenomenon itself, not (hopefully) by any aprioristic or axiological predicates which serve to artificially constrain the reality at hand or which predetermine the results of the analysis.[24]

The argument which seems justifiable in relation to the above quote is that very little (if any) of our research is <u>fully</u> open-systemed, since it is a necessity to work from some aprioristic assumptions if only to direct subsequent examination. And this must be acknowledged if one chooses to acknowledge Polanyi's[25] reasonable stance concerning the researcher's subjective involvement throughout inquiry. However, the key to understanding how to inductively generate a theory of communication rests on the fact that theoretical propositions arise from data

analysis. Termed 'grounded-theory' by Glaser and Strauss, the rationale for an inductive rather than a deductive (generally axiological) orientation is that:

> [The researcher] can be relatively sure that the theory will fit and work...by 'fit' we mean that the categories must be readily (not forcibly) applicable to and indicated by the data under study; by 'work' we mean that they must be meaningfully relevant to and be able to explain the behavior under study.[26]

Inherent within grounded theory, then, is an emphasis upon theory generation rather than the verification of researcher-manipulated conditions. This is not meant to imply that communicative events will be more validly revealed inductively than deductively; the choice is entirely at the discretion of the researcher(s) given the research question(s) being asked. While the highest inductive priority is explanation, prediction and control are more intrinsic to deductive research orientations.

Analytical Units: Assumptions and Procedures

To comprehend open-systems research requires an explanation of communication units of analysis, as well as assumptions underlying research techniques designed to empirically determine these units. As with explications of systems principles, such information has also been previously published and need not be made fully explicit here.[27] However, for the present discussion, a similar overview will prove useful and appears below.

Stemming directly from Weick's view of organizing processes,[28] an open-systems approach is intended to identify and interpret ongoing sequential interaction. According to Weick, all behavior is enacted (behaving in relation to one's environment) for the purpose of removing equivocality (unknowns) from environing conditions. In so doing, individual's collectively structure their interactions via

repetitive cycles of interlocked behavior.

Weick's views of organizing are systemically-based for several reasons. As Laszlo discusses how a system evolves and develops according to stabilization and reorganization states, constantly putting into question its self-identity, Weick focuses upon the capacity for individual's to enact the environment. If equivocality is in fact reduced, there will follow a subsequent increase in adaptive flexibility. Clearly, as these examples suggest, the reoccurrence of behavioral manifestations become the most appropriate units of analysis. Such communication redundancies also provide a measure of system structure and development, reflecting a systems identity in relation to coping with varying environmental conditions internal and external to the system itself.

To obtain these interpretations, numerous coding schemes have been utilized in past research, not all of which by any means are open-systemed in approach. If a coding scheme is used to assess system conditions which have in some way been significantly altered by the experimentor, it is in essence assessing the degree to which the system is closed because of the manipulative environment. For example, within the well known Bale's Interaction Analysis,[29] categories are predetermined and altogether rigid: coders pigeonhole group member's comments into decidedly socio-emotional or task-oriented categories, when in fact any comment can serve dual functions.

Among open-system applications, however, Stech[29] gives mention to three other than his own, including Scheidel and Crowell, Fisher, and Hawes and Foley. This list may be expanded by adding those of Mark, Rogers and Farace, and Ellis.[30] Each coding system, although employing different categories of analysis, code transcribed verbal utterances into their respective frameworks and usually submit resulting matrices of interlocked acts to either information theory, Chi Square,

and/or Markovian statistics.[31] Also, as noted by Rogers and Farace,[32] although message exchanges have been coded and categorized according to noncontent (e.g. time, duration) and content (quantity) criteria, relational orientations are the most current trend in this type of coding research. Generally speaking, relational coding systems are constructed to reflect the transactional characteristics of participant interdependence. This is achieved by coding each act in sequence, i.e. in relation to the previous act according to interpreted definitions which the coder feels the interactants hold for one another. For example, the systems of Mark, Rogers and Farace, and Ellis all employ categories which are polarized by complementary and symmetrical relational definitions.[33]

Background and Specific Research Applications

While numerous researchers such as those mentioned previously have engaged themselves in open-systems research, a perusal of systems literature reveals that inquiries headed by Fisher[34] have given greater attention to gradually building a systems theory of human communication. In 1971, Fisher and Hawes attempted to provide a more integrative paradigm upon which small group research could be grounded, and this article still serves as a springboard for current research. In concurring with McGrath and Altman,[35] they suggested that past group research, although guided by group dynamics, had been overly concerned with cognitive and affective bonds that were said to structure groups (e.g. cohesiveness and commitment, leadership and authority). Such approaches were criticized as ignoring interactive behavior, stressing socioemotional issues at the expense of task oriented dimensions.

As an alternative, Fisher and Hawes proposed an Interact System Model (ISM) (based on grounded theory notions discussed earlier) as a means of directly observing verbal and nonverbal behavior, composed of three levels of analysis:

interact categories, phases, and cycles. In addition, they entertained (although briefly) the potential for assessing correlates with all cognitive measures which would comprise the Human System Model (HSM).

The significance of this article is foreseen in the programmatic influence it has had from the early seventies to present. Hawes continued to explore the adequacy of Markovian analyses as process methodologies,[36] especially in interviewing contexts,[37] and also utilized a stochastic model in reference to group system decision proposals.[38] Fisher, on the other hand, in addition to his earlier interests in decision modification[39] and phasic emergence in groups,[40] has aided in extending yet refining the open-systems framework in numerous ways. For example: Fisher has made consistent attempts to put communication study into system perspective[41] and empirically assess communication rules within a system framework;[42] Ellis and Fisher have explored the function of conflict in group system development;[43] Fisher, Glover, and Ellis made an initial effort to explicate the nature of complexity in varying communication systems;[44] two coding schemes have been developed--a content system (Social Information Processing Analysis: SIPA) which assesses information processed at the systemic rather than the individual level, and a relational system (REL/COM) intended for coding relationship definitions throughout interaction.[45] Recently, in utilizing these two schema, Fisher and Beach have begun to provide an empirical basis to be used to guide inquiry into correlates of content and relationship interaction. And finally, again reflecting the heuristic nature of Fisher and Hawes' previously mentioned 1971 article, Beach and Fisher[46] have suggested the need for resolution of the tendency for researchers to specify <u>either</u> cognitions <u>or</u> behaviors as the crucial units of analysis by treating the dichotmy as an empirical (correlative) issue within communication treatments of social relationship.

Although the above review is by no means inclusive--it only partially reflects the work of Fisher and his associates over the past several years, and overlooks a number of published pieces which are open-systemed in scope--it does reveal the concern with systematic theory development within an overall systemic framework. However, in relation to earlier discussions of this essay, open-systems theory development is also vulnerable to criticisms and several issues are in need of discussion and refinement. The following and final portion of this paper addresses these criticisms and issues and proposes some strategies for coping with them in future communication inquiry.

IV. A Critique and Proposals for Action: Implications for Research

At the outset, the introduction to this essay alluded to some basic but evasive questions that should be inherent within any stocktaking account of a theoretical perspective. Given the preceding discussion of systems theory generally and selected applications of systems theory specifically, it seems appropriate to return to them at this time...largely because they were not addressed directly in the body of this essay. What follows, then, are responses to questions and areas of concern arising in the process of critically assessing open-systems accounts of human communication.

Two highly interrelated, yet broadly stated questions provide ample 'food for thought' for the ensuing discussion. They are: Are the underlying assumptions which serve to guide open-systems inquiry clearly articulated?, and To what degree are basic systems assumptions aligned with stated and desired research goals? In essence, these two questions overlap for a very simple reason: to articulate one's guiding assumptions is also to attain a goal necessary for research to be conducted in a fruitful manner. A perusal of the literature previously discussed reveals that one apparent strength of open-systems research is

the tendency to present extensive theoretical rationales which are not atheoretical in nature, i.e. past empirical results do not comprise the bulk of systems researcher's arguments for the necessity of their work. Of course, past empirical findings do shape subsequent research inquiries: they can lead to the stating of probable directions worthy of future investigation. However, inductive concerns would imply that the researcher does not construct an argument which will be proven or disproven after data analysis. Instead, conclusions drawn from the data will serve to explain and clarify communicative events in such a way as to help structure the overall theoretical framework. As mentioned previously, the intent is to generate theory, not reveal the extent to which the researcher's prior expectations and arguments are verified by hypothesis confirmation or disconfirmation. By recognizing this emphasis on explanation rather than prediction and control, an interpretation can begin to be offered concerning the articulation of systemic assumptions. Diverse attempts have been made to specify principles of behavioral systems and their relatedness to communication according to the purpose of the research at hand. And to date, this author believes that the delineation of systemic notions has been consistent in both providing the need for a particular study, interpreting the results, and drawing specific implications for additional systems research. In fact, it may very well be that it is this type of consistency which has played a dominant role in the programmatic growth of communication systems research since the 1971 Fisher and Hawes article.

Returning to the question which draws attention to the relationship between assumptions and goals, the concern for process conceptions and methodologies immediately comes to mind. Certainly, one of the more controversial topics within the communication discipline has been our transactional concerns but our interactional

(cause-effect) research.[47] In this regard, open-system methodologies provide at the very least a viable alternative to assessing the ongoingness and interrelatedness (in short, organizing activities) of communication relationships. The utilization of information theory statistics which measure sequential redundancy via interaction analysis techniques,[48] and the continual concern for constructing relational coding schemes seems to reinforce a trend within the discipline termed 'developmental' by Miller.[49] He suggests that a recent change in conceptualizing relationships focuses upon the qualitative shifts which occur as individual's do or do not move from less intimate to more personal levels of interaction from zero-history on. Of interest here is that open-systems research has been developmentally oriented for quite some time, although in a different manner. For example, consider Fisher's work on decision-making phases in task-oriented groups. The focus has been more upon the gradual and accumulative effects of decision-proposals on group processes, yet the methodology per se can fairly easily be applied to deciphering more interpersonal (intimacy-related) developments over time as well. Recently, Fisher and Beach[50] have attempted to do so by coding dyadic transcripts derived from ten day periods of isolated interaction. This type of research can serve to describe relational change processes in terms of formation and maintenance functions. As yet, however, no open-system attempts have been made to decipher the disintegration/deescalation of interpersonal relationships, presenting a worthwhile option for future study.

To suggest that an open-system methodology can be applied developmentally is also to state that of major concern is the evolvement of levels of complexity within a communication system. It is both a stated and desired goal of open-system researchers to seek out and identify why communication is a complex phenomenon, and articulate the functions of complexity on social relationships. By not

viewing component parts of a communication system in isolation, and viewing the patterned structuring of relationships over varying amounts of time, this can begin to be accomplished. However, when stressing communication complexity it seems crucial not to go overboard with this line of reasoning. Recently, Miller[51] delivered a paper entitled "The Pervasiveness and Marvelous Complexity of Human Communication: A Note of Skepticism", in which he cogently argues that the uncritical acceptance of the statement "All communication is complex." can lead to "counterproductivity" in the research process and consequently promote a "disciplinary identity crisis". Surely, if a communication researcher is continually searching for complexities, a self-fulfilling prophecy may develope whereby otherwise 'simple' communication activities may be interpreted as amazingly pervasive and complex events. This seems especially the case when deciphering regularities among 'multifaceted' and 'unique' communications. If all occurrences among persons are of this sort, how is one to define a regularity, and further, what would our operationalizations of parsimony look like?

Miller's argument is of course, more extensive in scope than the examples given above. But open-systems researchers would do well to heed his advice:

> Rather than looking for ways to complexify the communication process, let us try to find effective, heuristic ways to simplify it, to boil it down to a set of parsimonious constructs that can be combined in sets of empirical generalizations so as to form theoretical paradigms for dealing with areas of communication behavior.[52]

In comparision to Bertalanffy's earlier call for "analogy based principles" and the elevation of parsimony to a prominent status, Miller's stance is quite similar. It might simply be said that things are complex enough without our making them more incomprehensible. But this is not to say that the notions of 'complexity' should by any means be discarded as a 'devil term' within our discipline. Quite the contrary can be true <u>if</u> careful judgment is used in conceptually clarifying

and methodologically assessing interaction, and subsequently identifying important aspects of complexity across situational contexts. And doing so, naturally, depends upon the framework of interpretation utilized in the research process. What might appear complex to some may seem blatantly obvious to others. Yet the essentialness of the argument to not blow the notion of complexity out of proportion still deserves merit, albeit in need of further qualification and refinement.

The issues presently being discussed arise when the question is asked: "How can effort and time be maximized when attempts are being made to expand and develop a theoretical explanation of communication behavior?" When further considering an open-systems perspective, two additional problem areas currently facing researchers are: 1) the usage of coding schemes; and 2) the epistemelogical bases of past open-systems research and opportunities for future inquiries. To conclude this section, these two issues will be critiqued and discussed in their respective order.

Coding Schemes

There appears to be some discrepancy among researchers who voice their opinions on the issue of coding schemes. While some would argue that there is an overabundance of designs, others would suggest that we are in dire need of more quantities of categorical treatments of data. In line with the former position, Stech[53] has recently indicated that due to a proliferation of classification systems, there is minimal critical evaluation of category designs. Consequently, generalizability of coding results are limited to the extent that different systems are not compared to one another to ascertain unneeded overlap or excess discreteness of categories within and across research attempts. Similarly,

Bochner[54] has addressed the fact that it is rare for researchers to employ similar 'tasks' across group studies, implying that 'new' data is constantly being analyzed, yet the same data is not being deciphered by varying coding schemes. It is apparently becoming increasingly uncommon for open-system researchers to utilize any coding scheme other than their own.

To cope with this, one strategy is to employ multiple systems in coding the same set of interaction data, and use this general technique to better determine the isomophies and idiosyncracies among schemes. One outcome of this approach would hopefully be more parsimony and integration among similar treatments of data pools. Another would be to view each system as an explication of a somewhat different hierarchical level of the communication system under investigation. Since systems function concomitantly at varying levels, attempts should be made to assess interactions <u>across</u> levels as well as among components in any one level. A 'level', in this sense, depends entirely upon the operationalizations of the researcher(s). After all, specific categories and coding systems in general are discrete only to the extent that they offer different interpretations of communication processes. Each coding system can thus be simplified by stating that it is nothing more than a conceptual design to be used in describing communicative events.

Two recent efforts have been attempted in this regard that should serve to clarify the fruitfulness of hierarchical interpretations. As mentioned previously, Fisher and Beach have criticized research for empirically dichotomizing content and relationship dimensions of behavior. To begin to confront their interdependence, they submitted a single interaction transcript to a content <u>and</u> a relationship coding scheme and by integrating this data generated pilot data reflecting potential content/relationship correlates of behavior. A corresponding attempt was made by

Stech[55] to better determine the trade-offs of coding schemes in estimating distributional and sequential structure in groups. He also utilized one transcript of social interaction but coded it three separate times...one for each coding system.

To sum, the seeming problematicness associated with coding systems (at least in part) stems from the fact that for every researcher who argues that category systems should be minimized in quantity, another will argue that the communicative phenomenon are deserving of diverse categorical treatments because of their complex nature. However, one might question the seriousness of this state of affairs and simply view it as a healthy exemplar of open-system research. Viewing category systems as descriptors, the usefulness of a scheme should be dependant upon its conceptual clarity, ease of operation, and potential explanatory power. If these standards are not met for some reasons, then a coding system should not be used. But if they are, then it can no longer be argued that a proliferation of systems is unhealthy but rather inevitable in the expansion of a theoretical framework. Granted, continual efforts should be made to synthesize coding systems for the sake of parsimony. But the fact is that as yet no one has succeeded in capturing the imagination of the communication discipline with a coding system design since Bales, and the Bales system is no longer even viewed as a viable alternative to meet current research goals. With these considerations in mind, the current status of coding systems should not be taken too seriously, too quickly. If coding schemes are to be devised and contrasted among other coding systems, then we certainly need to set standards of acceptance and rejection for this process. Presently, systems researchers are obviously not working together as a unified--wholistic--team. Ironically, those expressing the importance of systems functionings are not applying this knowledge

to unify and organize processes of inquiry across the communication discipline. Planning needs to be made for a series of meetings/mini-convetions for those with these concerns in mind. This is not an easy task to accomplish, but it must occur if the development of a stronger community of systems researchers is hoped to be attained in the near future.

To risk redundancy, researchers dealing with coding system issues should be evaluatively-selective in these matters, depending upon the research questions they wish to pursue and seek knowledge about. There may be a future time when a legitimate argument could be made concerning the proliferation of categorical schemes. But if so, there is much to be done before we will have the knowledge and ability to boil down our categories of interpretation into unified and discrete coding systems. As with all modes of scientific expansion, patience is also a virtue in this relatively minute example.

Epistemelogical Choices

Inherent within the previous discussion of coding systems is a clear-cut epistemological bias: it is behavioristic in scope. One of the limitations and tradeoffs associated with interaction analysis techniques is the focus entirely upon observable behaviors (verbalizations) as appropriate units of analysis. Certainly, any time a researcher chooses to utilize either behavioristic or mentalistic (self-report) data as direct or indirect measures of communicative events, some of the communication 'flavor' is overlooked depending upon the choices made. Traditionally, cognitions and behaiors have been dichotomized and not measured one in regard to the other. However, working within an open-system framework, there are no constraints limiting a researcher from attempting to discover how individual's perceive (construct) and actually follow (sequence) their

communication experiences. Earlier it was noted that Beach and Fisher have suggested such options in view of communication as social relationship. The higher the correlations/overlaps that are found to exist, the greater the likelihood that interaction is impacted in particular ways by the participants. Having both kinds of information could allow the systems researcher considerable degrees of freedom in explicating the nature of types of interpersonal relationships under varying environmental conditions. Here too the notion of a system hierarchy enters in, since self-report and interactional data can aid in minimizing explanatory distortions given that each form of data can potentially supply a large degree of what the other does not.

This perspective and potential for research highlights an important issue for researchers alike. Simply, "To what extent can relational properties of interaction be discovered when explanatory frameworks are built upon assumptions of the individual communicator?". And conversely, "What can be generalized to the individual when more wholistic/systemic concerns guide research inquiry?". Specifically, open-systems researchers should become aware of these epitemelogical quiestions by critically assessing the degree to which their research procedures shed light on the individual, the relationship, and both viewed together, be it in a dyadic or small group context. The more sensitized a researcher is to these concerns, the better s/he will be able to interpret research results and subsequently generate knowledge claims within the parameters of a particular research process.

SUMMARY AND CONCLUSIONS

Admittedly, the initial stocktaking effort undertaken in this essay can only be suggestive in scope. Much remains to be done to operationalize the proposals

contained within the final portions of this paper. However, since theoretical frameworks such as open-systems theory are constantly being expanded to account for new phenomenon and new methods of research, the need for theory refinement is in constant demand. This is evidenced by the fact that communication research is largely without normalized expansion guidelines and certainly lacking in tight, integrative theoretical statements.

Because of its conceptual and methodological orientations toward communication as an intricate process, open-systems approaches have great potential for affecting future directions, hence, status of communication inquiry. Yet it will not progress as it should unless researchers constantly scrutinize their own systems applications, beginning with basic assumptions which allow for a system to function as it does.

As mentioned in the body of this essay, the statistics and coding systems currently being used are only descriptive tools. Any fruitful explanations arising from them concerning communicative events is wholly dependant upon the researcher's ability to make competent decisions as to theory expansion and refinement. This is an important rationale underlying the present stocktaking focus. Another suggests that to 'take-stock' is to help insure that in our hurried search for more fruitful explanations of communicative phenomenon, we don't run by more along the way then we find once we get to wherever we believe we're going.

FOOTNOTES

1 In essence, the notion of 'stocktaking' as used throughout this paper is quite similar to phenomenological concerns with seeking the roots of and grounding our operative concepts for purposes of analyses and assessment. For example, see Zaner's discussion of being 'radically critical' in The Way of Phenomenology, (Indianapolis: Bobbs-Merrill Co., Inc., 1970), p. 113.

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6 Brent D. Ruben and John Y. Kim, General Systems Theory and Human Communication, (New Jersey: Hayden Book Company, Inc., 1975); B. Aubrey Fisher, Small Group Decision-Making: Communication and the Group Process, (New York: McGraw-Hill, 1974); B. Aubrey Fisher and Leonard C. Hawes, "An Interact System Model: Generating a Grounded Theory of Small Group Decision-Making," QJS, 58 (1971), pp. 443-453; Donald G. Ellis, "A Systemic Model of Conflict in Small Groups," Paper Presented to Western Speech Communication Association Convention, Seattle, 1975.

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8 Charles M. Rossiter, Jr., and W. Barnett Pearce, Communicating Personally: A Theory of Interpersonal Communication and Human Relationships, (Indianapolis: The Bobbs-Merrill Co., Inc., 1975).

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17 Ludwig Von Bertalanffy, Robots, Men, and Minds, (New York: George Braziller, 1967).

18 Sutherland, p. 10.

19 Fisher, 1974, Chapter 2.

20 Donald P. Cushman and Ronald T. Craig, "Communication Systems: Interpersonal Implications," in G. Miller (Ed.) Explorations in Interpersonal Communication, (Russell Sage, 1976).

21 For example, see Fisher text, 1974.

22 A slight exception, for example, is a paper by Leslie A. Baxter and Jean M. ward, "Task Difficulty, Relational Interaction, and Performance Outputs in Ad Hoc Problem-Solving Groups", paper presented at Western Speech Communication Association, San Francisco, 1976, whereby more control was administered by assigning groups to different types of task assignments and post-tests were given to subjects.

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25 Michael Polanyi, Personal Knowledge: Toward a Post-Critical Philosophy, University of Chicago Press, 1962).

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